Acquisition Strategy - an Update

- INDUSTRY PARTNERS COMPETITIVELY SELECTED UNTIL THE MANUFACTURING PRIME CONTRACTOR IS SELECTED
  - 2 PRE-A AND PHASE A STUDIES
  - NEXUS ITA DESIGN IS PART OF THE PHASE B/C/D SELECTION CRITERIA
- AD HOC SCIENCE WORKING GROUP (ASWG) AND SWG SELECTED COMPETITIVELY
- SCIENCE OPERATIONS CENTER: DESIGNATION OF ST SCI BY OSS ANTICIPATED IN FY 98-99
- SCIENCE INSTRUMENT STUDIES PROCURED COMPETITIVELY VIA RFO
  - ESA HAS AGREED TO RUN A PARALLEL SET OF STUDIES
  - SI MAKE/BUY DECISION TO BE MADE DURING THE PHASE A STUDY AND BASED ON THE RESULTS OF THE INDUSTRY ARCHITECTURE STUDIES, ESA STUDIES AND THE GSFC IN-HOUSE STUDY
- WORKING ASSUMPTION IS THAT THE NGST OBSERVATORY SYSTEM INCLUDING LAUNCH VEHICLE PROCURED USING A PERFORMANCE BASED CONTRACT (PBC)
  - GOVERNMENT WORK PACKAGES POSSIBLE -TBD
  - CONTRIBUTIONS FROM INTERNATIONALS TBD

Acquisition Strategy (cont'd)

- TECHNOLOGY DEVELOPMENT WILL BE DONE IN PARTNERSHIP WITH INDUSTRY
  - MIX OF PROCUREMENT VEHICLES (NRA, RFO, SBIR/STTR, IRFD)
- FLIGHT VALIDATION PATHFINDER
  - ISIS IS A GOVERNMENT-LED STRETCH TECHNOLOGY FLIGHT TEST ON A DARA SUPPLIED SPAS CARRIER WITH POTENTIAL INDUSTRY COLLABORATION
  - NEXUS IS A PHASE B FLIGHT TEST OF A SUBSCALE ITA ACCOMPLISHED VIA A GOVERNMENT-INDUSTRY PARTNERSHIP ON A SPARTAN 400 CARRIER

Project Manager Challenges to the Team

- **OPERABILITY**
  - **DEFINE THE NEXT PARADIGM SHIFT (NOT EVOLUTIONARY PROGRESSION) IN THE OPERATING ENVIRONMENT OF NGST AND VALIDATE IT TO THE EXTENT POSSIBLE THROUGH A COMBINATION OF SIMULATION AND EXPERIMENT ON NEXUS**
    - **CONCEPTUALIZE AND DEFINE THE NEXT GENERATION MODELING TOOLS, AND FACTOR IN CODE SM AND CODE A INVESTMENTS AT ARC, JPL, AND LARC**
  - **CREATE A VISION OF THE NGST SCIENCECRAFT**
- **MODELING & SIMULATION**
  - **ARTICULATE YOUR VISION OF THE COMPUTER TOOLS AND PROCESSING ENVIRONMENT REQUIRED TO ACHIEVE A HIGH FIDELITY, 3-D SIMULATION OF AN IN-FLIGHT NGST**
    - **DEFINE THE HARDWARE/SOFTWARE ARCHITECTURE REQUIRED TO PERFORM AN NGST "SIM"**

Challenges (cont'd)

- **TECHNOLOGY DEVELOPMENT**
  - **PRODUCE A MINIMUM OF 2 VIABLE LIGHTWEIGHT MIRROR CANDIDATES BY JAN 1999**
  - **DEMONSTRATE CLOSE LOOP WAVEFRONT CONTROL IN THE DCATT BASELINE TESTBED SYSTEM BY JAN 1999**
  - **PUBLISH A TECHNOLOGY ADDENDUM TO THE 1997 BOOK**
- **SYSTEMS ENGINEERING**
  - **INSTITUTE ELECTRONIC TRACKING OF REQUIREMENTS AT ALL CENTER FACILITIES, TRACEABLE TO THE LEVEL 1 REQUIREMENTS**
- **FLIGHT VALIDATIONS**
  - **MAINTAIN THE PARTNERSHIPS NEEDED TO ACCOMPLISH ISIS FOR < $4M AND LAUNCH IN 2000**
  - **LAY THE APPROPRIATE GROUNDWORK FOR DESIGNING NEXUS TOTALLY BY COMPUTER IN A TIME CONCURRENT ENGINEERING ENVIRONMENT**
    - **PASS THIS REQUIREMENT ON TO ALL PARTNERS/VENDORS**

Challenges (cont'd)

- **COST & PROCESSES**
  - **CRAFT A POSITION PAPER ON THE SIRTF/NGST COST DISCREPANCY**
  - **CREATE A DRAFT SOW ON THE WEB FOR THE PHASE C/D PBC COMPETITION**
- **MECHANICAL SYSTEMS**
  - **BREAK THE MECHANISM-ADVERSE SYSTEMS DESIGN PARADIGM AND RE-DEFINE THE WAY COMPLEX SPACECRAFT ARE DESIGNED AND BUILT**